System Management with Apple Remote Desktop

Session 616

These are confidential sessions—please refrain from streaming, blogging, or taking pictures.

System Management with Apple Remote Desktop

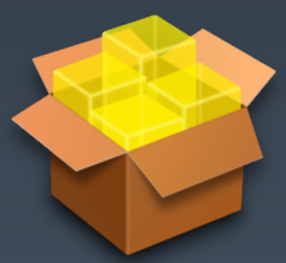
Mark Whittemore, Brian Ganninger, Doug Richardson, Steve Hayman

Agenda

- Brief overview of features
- Settings
- Discovering clients
- Staying connected
- Workflows

Apple Remote Desktop

Apple Remote Desktop



Software Distribution

Asset Management

Remote Administration

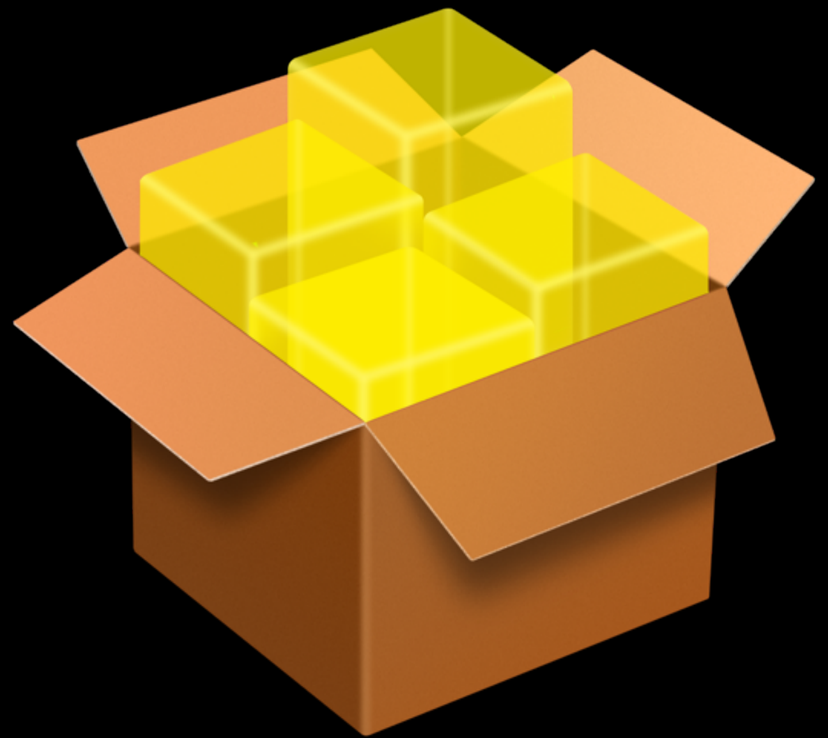
Remote Assistance

Automation

Setup

Apple Remote Desktop

Software Distribution



Software Distribution

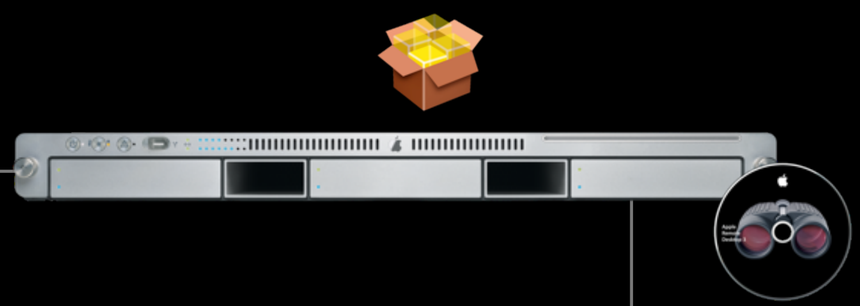
Package Install	Install single or multiple Apple .mpkg and .pkg files.
AutoInstall	Install package software using a Task Server. Software is staged for computers that are offline.
File Copy	Copy files and folders to and from clients. Files can be copied to a predetermined location or a specified location.
Delete Files	Delete files and folders from multiple Mac OS X computers.

AutoInstall

Ideal for software installation on mobile computers

1 Administrator needs to install software package on Mac systems

2 Package is first copied to Task Server

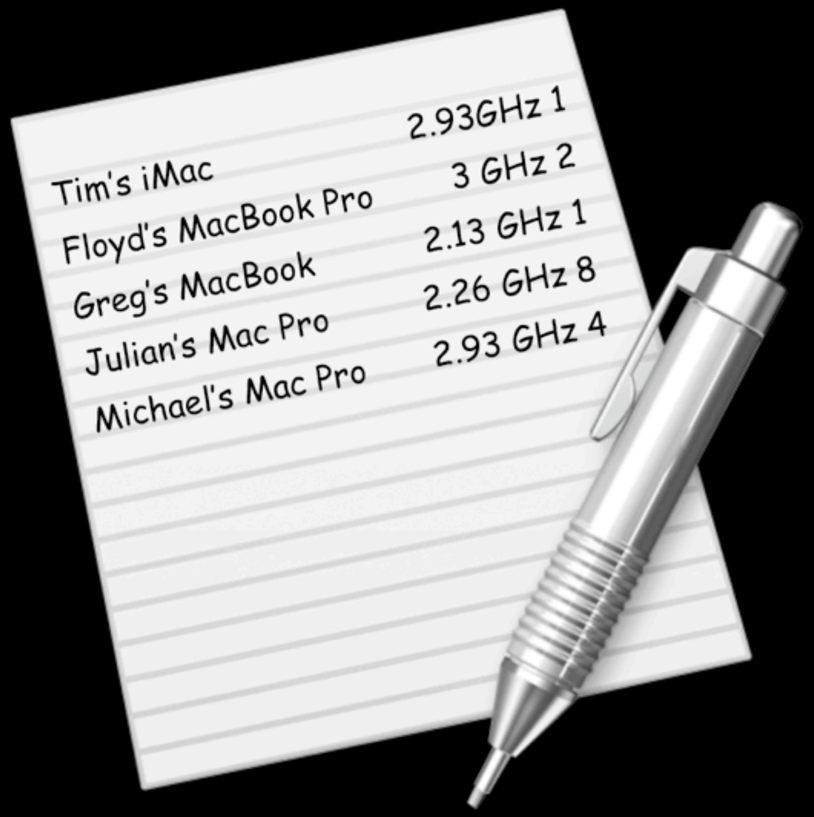


3 Package is then copied and installed on Mac systems

4 If computer is offline, package is queued until it is available

Apple Remote Desktop

Asset management



Asset Management

Software Reports	Software version, software difference, file search
Hardware Reports	System overview, storage, memory, expansion cards, network interfaces, USB, and FireWire devices
Application Usage Report	View detailed information on applications used on your remote computers
User History Report	View detailed information on users of your remote computers
Remote Spotlight Search	Use Spotlight search on remote Mac OS X and view results on your computer
Offline Reporting	Search and browse information on Mac OS X systems regardless of their presence on the network
SQL Database	Access data stored in SQL database to create your own custom reports or integrate with other databases in your organization
Data Export	Export results of reports using comma- or tab-separated text file

Advanced Reporting

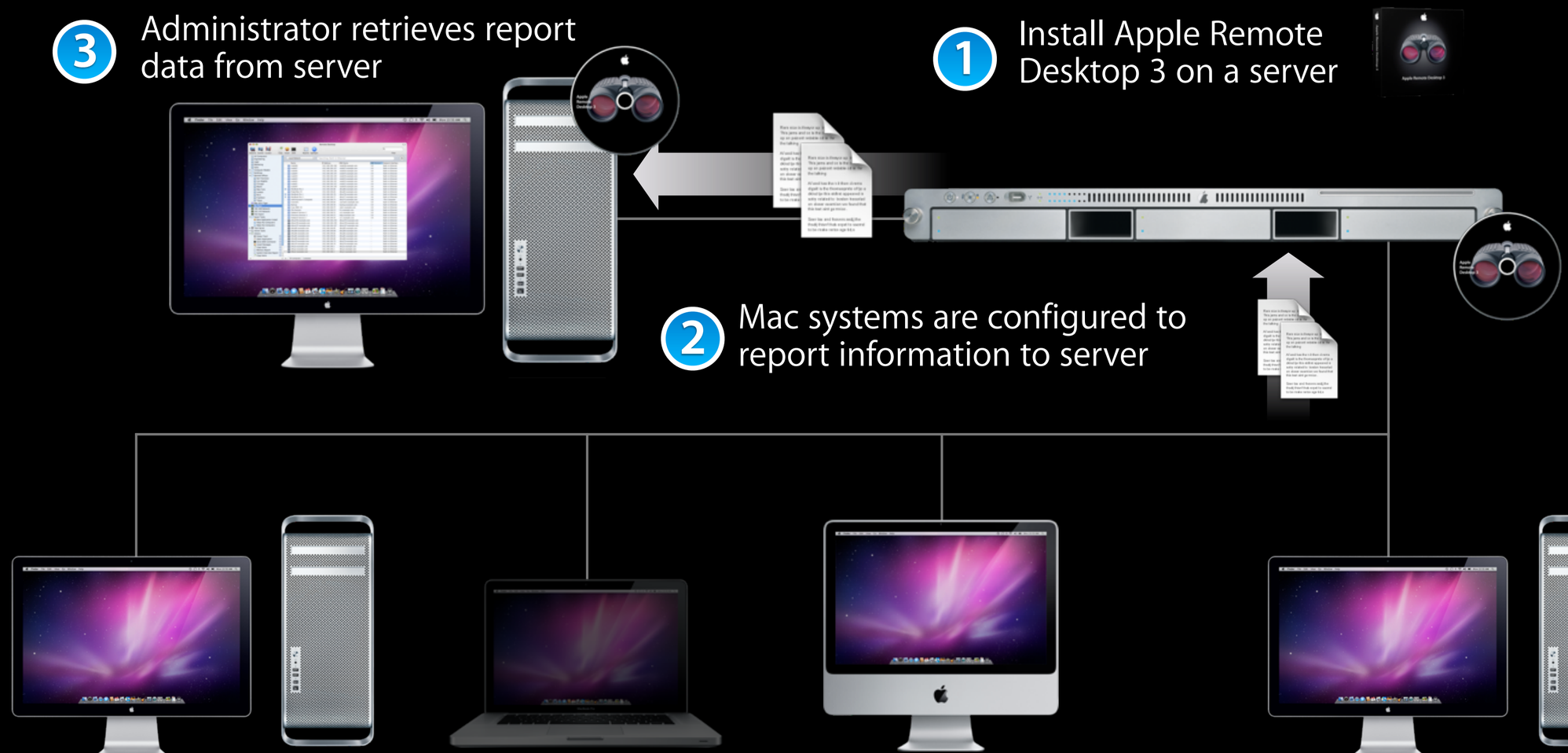
Ideal for managing mobile computers

1. Install Apple Remote Desktop 3 on a server

2. Mac systems are configured to report information to server

3. Administrator retrieves report data from server

4. Data is available even if computer is offline



Apple Remote Desktop

Remote administration

Remote Administration

Send UNIX	Execute UNIX shell scripts or UNIX commands simultaneously on remote Mac OS X systems.
Set Startup Disk	Specify startup disk of remote Mac OS X computers as local or network volumes.
System Control	Sleep, wake, restart, or shut down. Rename computer. Empty trash. Lock and unlock screens.
User Control	Log out users. Open files or applications.
Lights Out Management	Power on, power off, or restart a machine regardless of OS state.

Apple Remote Desktop

Remote assistance

Remote Assistance

Observe/Control	Control any Mac OS X or VNC-enabled system, including Windows and Linux.
Multiple Observe	Observe multiple remote screens simultaneously.
Share Screen	Share a Mac OS X screen with other Mac OS X systems.
Guest Access	Allow users to manage screen access.
Full-Screen Toggle	Toggle between Fit in Window and Full Screen of control windows.
Curtain Mode	Block a remote user's view of remote desktop with a virtual "curtain".
Remote Drag and Drop	Transfer files between your computer and remote computer.
Remote Copy and Paste	Copy and paste information between your computer and remote computer.
Remote Desktop Widget	Observe remote Mac OS X or VNC-enabled systems using new Dashboard widget.
Interactive Text Messaging	Broadcast text messages. Initiate private, two-way, real-time, computer-to-computer text chat.

Apple Remote Desktop

Automation

Automation

AppleScript Dictionary	Use AppleScript to automate Apple Remote Desktop tasks.
Automator Actions	Use over 30 actions to automate routine management tasks.
Scheduling	Schedule tasks for future date and time. Specify whether to repeat on a given frequency.

Apple Remote Desktop

Setup

Setup

Scanners	Discover computers on local network, network address ranges, network address, Bonjour, Task Server, or file import.
Smart Computer Lists	Dynamically create computer lists based on rules you've specified.
User-Defined List Views	Customize which attributes are visible for each computer in your computer lists.
Groups	Use groups to organize your computer lists and tasks.
Labels	Label computers using one of seven colors for easy organization.
User Mode	Make common Apple Remote Desktop (ARD) tasks available to standard users.
Task Templates	Save task settings and configurations for later use. Provides quick access to favorite settings.
Directory-Based Authentication	Use directory services groups to define access privileges to ARD Agent.
Setup Assistant	Configure ARD Agent access privileges and settings remotely.

Demo

Apple Remote Desktop 3.2

- Released October 2007
  - Some highlights
    - Leopard compatibility
    - Improved screen sharing performance
    - Improved screen sharing keyboard mapping
    - Improved file copy reliability

Apple Remote Desktop 3.3

- Free update for existing users
  - Managed client settings
  - NAT support
  - Wide-area Bonjour support
  - Task Server and Directory Services scanners
  - Report cache management enhancements
  - Additional Automator actions
  - Snow Leopard services support
  - Client ships with Snow Leopard

Apple Remote Desktop Settings

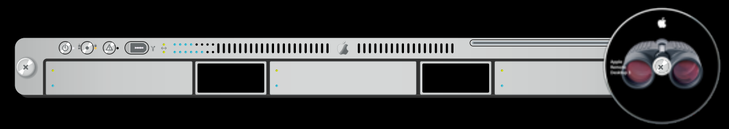
Brian Ganninger

Deployment Checklist

Three components to deploy

Administrator Console

Client Computers



Task Server

Deployment Checklist

Three components to deploy

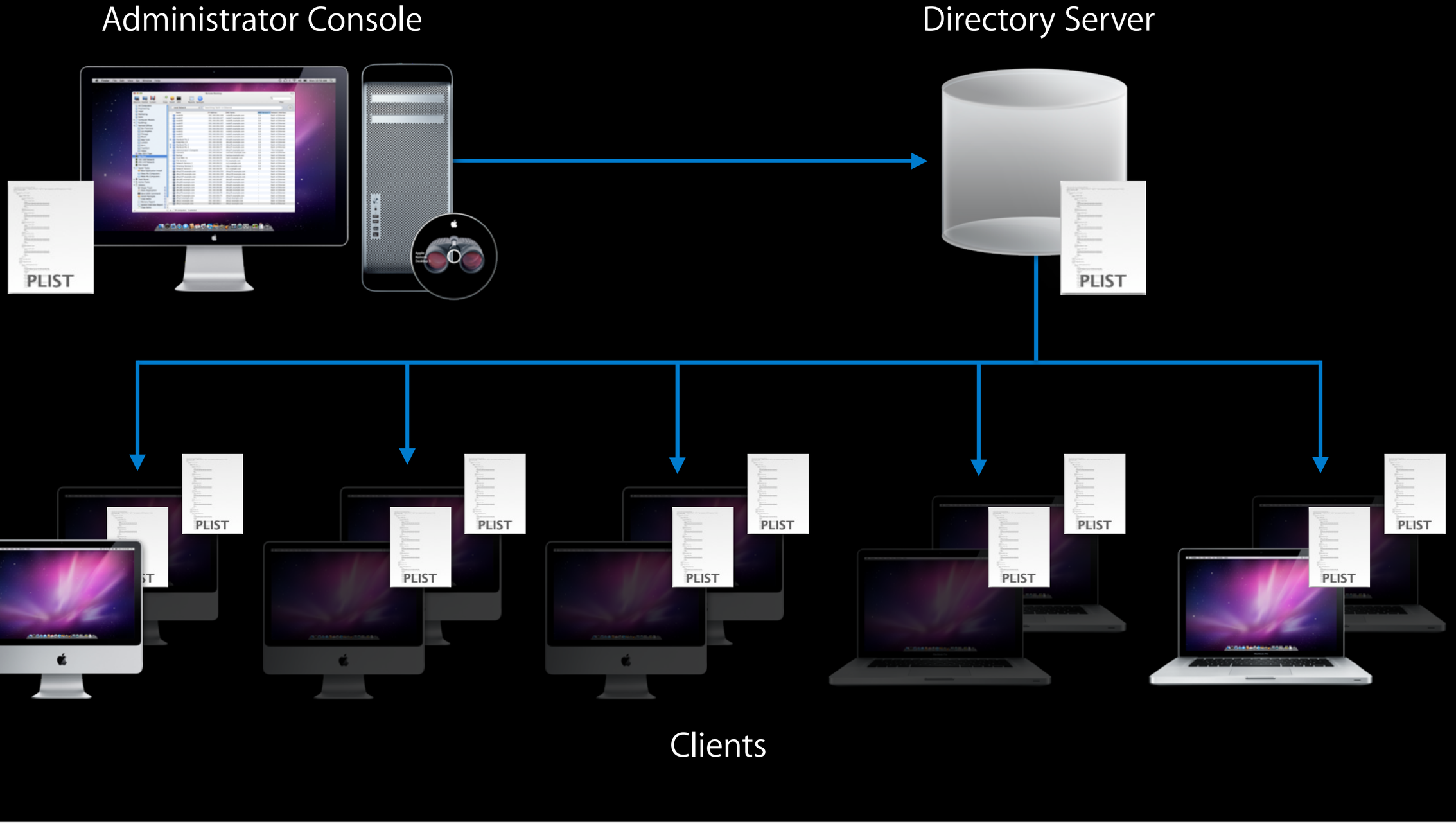
- Use a common remote Task Server?
- Use a common default reporting policy?
- Have a common reporting policy for clients?
- Use a Task Server white list on clients?
- Limit computer scanner types?
- Use security settings such as encrypting all file copies?

Administrator Console

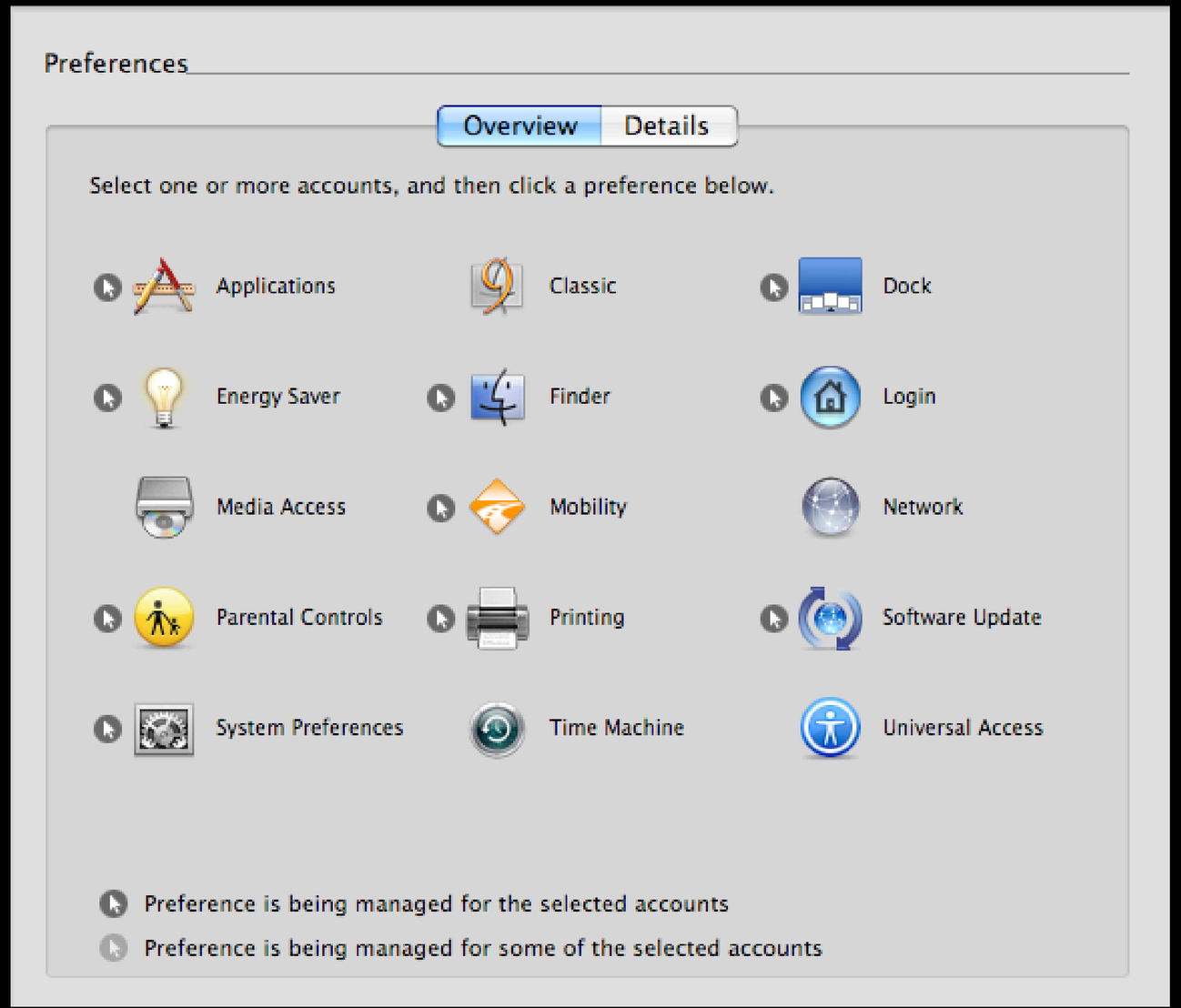
Client Computers

Task Server

Managed Preferences



Workgroup Manager Simplifies Editing



Managed Preferences for Administrators

Security: Allow Control of Admin Computer
Security: Encrypt All Network Data When Controlling Computers
Security: Encrypt Copy Items Data
Security: Encrypt Install Packages Data
Security: Restricted Feature Access
Security: Use Restricted User Settings for Administrators
Task: Don't Change Focus To Active Task
Task: Enable Task Notification Script
Task: Max Sidebar Task History
Task: Max Task History Days
Task: Notification Script Path
VNC: Always Ask for Permission When Observing a Computer
VNC: Don't Register VNC with Bonjour
VNC: Send Main Display Only
VNC: Time Between Screen Updates
VNC: VNC Port
Scanners: Directory Services Scanner White List
Directory Server ID
App Usage Tracking Days
Report Types Built
Report Type Name
Reporting Minute
Reporting Hour
Control: Show the Screen at Full Size
Control: Display Control Window Full Screen
Control: Take Absolute Control of the Computer
Data: Allow Remote Connections to this Server
Data: Task Server Network Address
Data: Task Server White List
General: Don't Accept Messages From Users
General: Don't Confirm Drag and Drop File Copies
General: Don't Show User Idle Time in the Computer Status
General: Don't Warn About Active Screen Share Tasks Before Quitting
General: Don't Warn About Active Tasks Before Quitting
General: Don't Warn About Scheduled Tasks Before Quitting
General: Don't Warn About Unread Messages Before Quitting
General: Double-Clicking Action
General: Show Short User Names
Multicast: Allow Multicast
Multicast: Allow Non-EN0 Multicast

All Administrative Preferences Are Manageable

Do Reporting Sunday
Do Reporting Monday
Do Reporting Tuesday
Do Reporting Wednesday
Do Reporting Thursday
Do Reporting Friday
Do Reporting Saturday
User Accounting Tracking Days
Reporting: Offline Reporting Policy
Report System Data
Report File Search Data
Report Application Usage Data
Gather User Accounting Data
Do Reporting Sunday
Do Reporting Monday
Do Reporting Tuesday
Do Reporting Wednesday
Do Reporting Thursday
Do Reporting Friday
Do Reporting Saturday
Reporting Hour
Reporting Minute
Reporting: Offline Reporting Policy
Multi-Observe: Max Computers Per Screen
Multi-Observe: Screen Delay Time
Multi-Observe: Screen Quality
Multi-Observe: Show Account Picture
Multi-Observe: Show Computer Status
Multi-Observe: Transition
Multi-Observe: Title
Multi-Observe: Use Shapes for Status
Label: Label List
Label
Label Name
Label Color
Red Value
Green Value
Blue Value
Alpha Value

Managed Preferences for Clients

- Reporting policy
  - Reporting categories
  - Schedule
- Task Server white list

Managed Preferences for Clients

Four report caches used by twelve reports

System Profile	File System	Application Usage	User History
System Overview Report Storage Report USB Devices Report FireWire Devices Report Memory Report Expansion Card Report Network Interfaces Report	File Search Software Version Report Software Difference Report	Application Usage Report	User History Report

To create reports you must:

- Select the report caches to build
- Select the days of the week on which to build the caches
- Select the time of day at which to build the caches

Demo

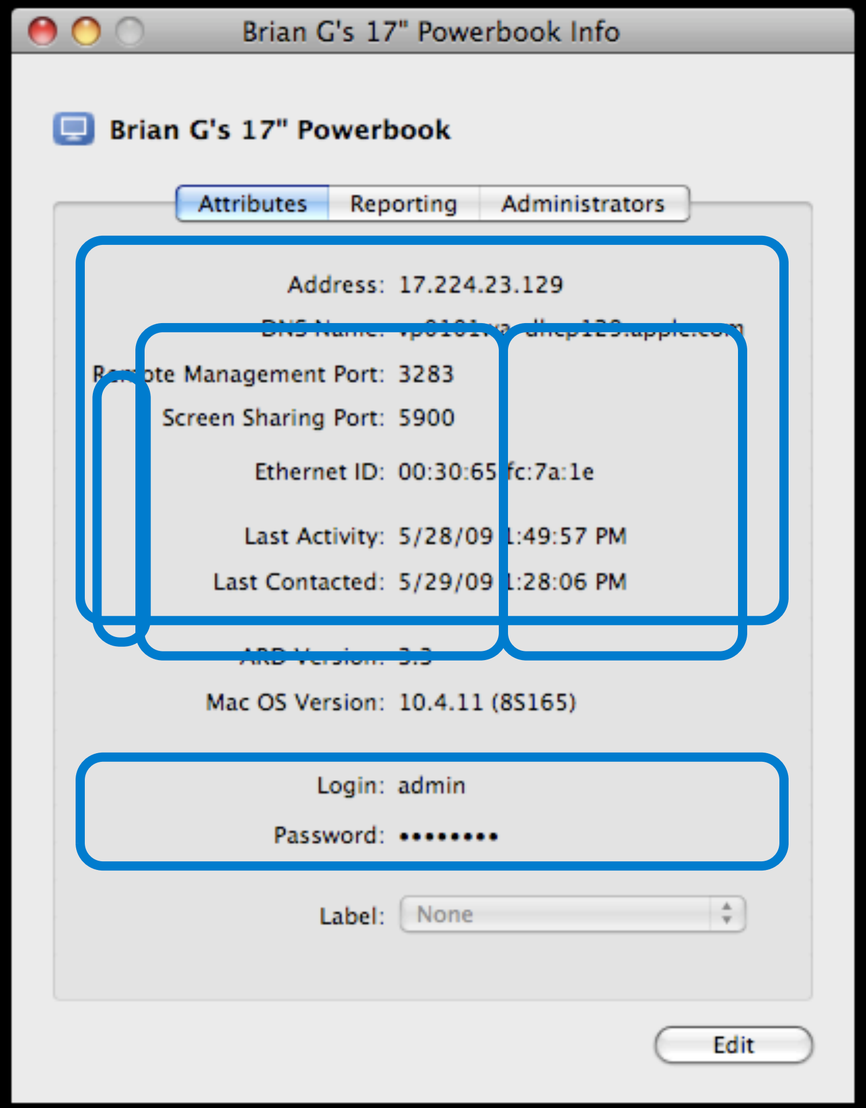
Client Settings in Apple Remote Desktop

Client Settings in Apple Remote Desktop

- What's the reporting policy for a client?
- Who set the reporting policy, and when?
- Which administrators are receiving reporting data?

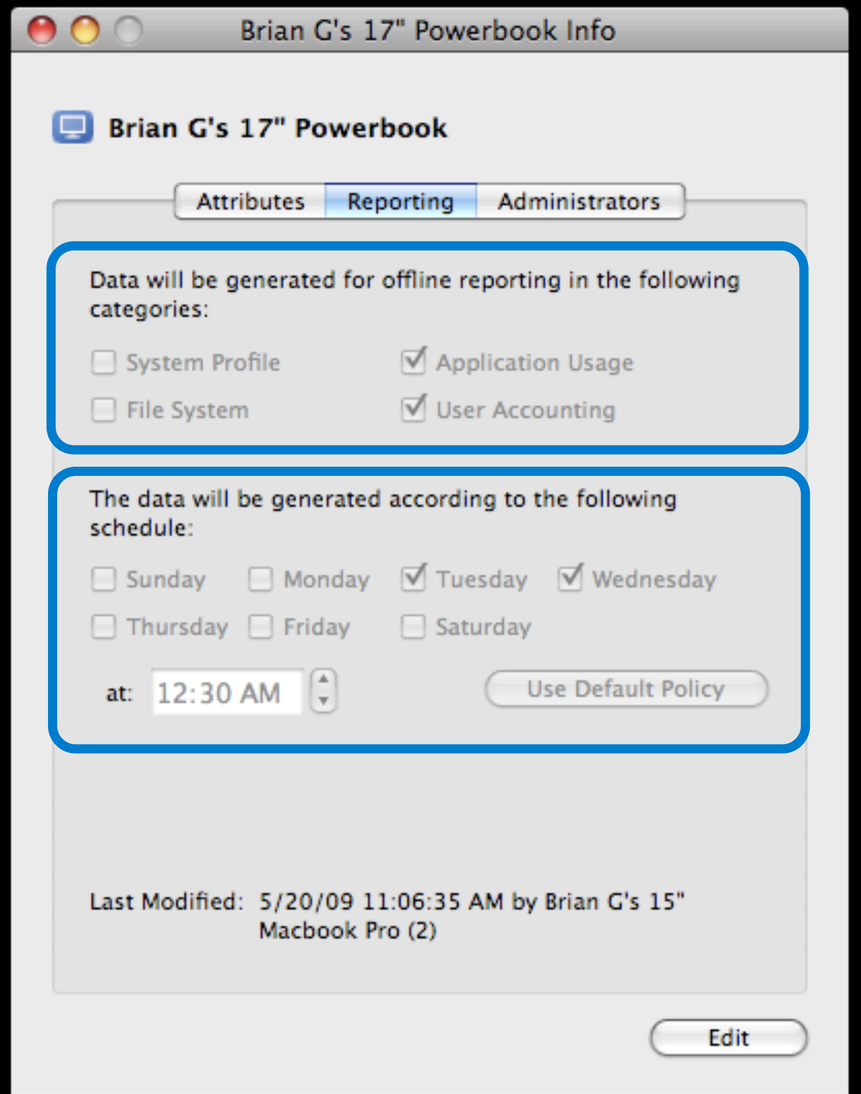
Information About a Single Client

- Attributes
  - Connection details
  - Authentication
  - Lights Out Management configuration
- Reporting
- Administrators
  - Administrator consoles
  - Online status
  - Task Servers



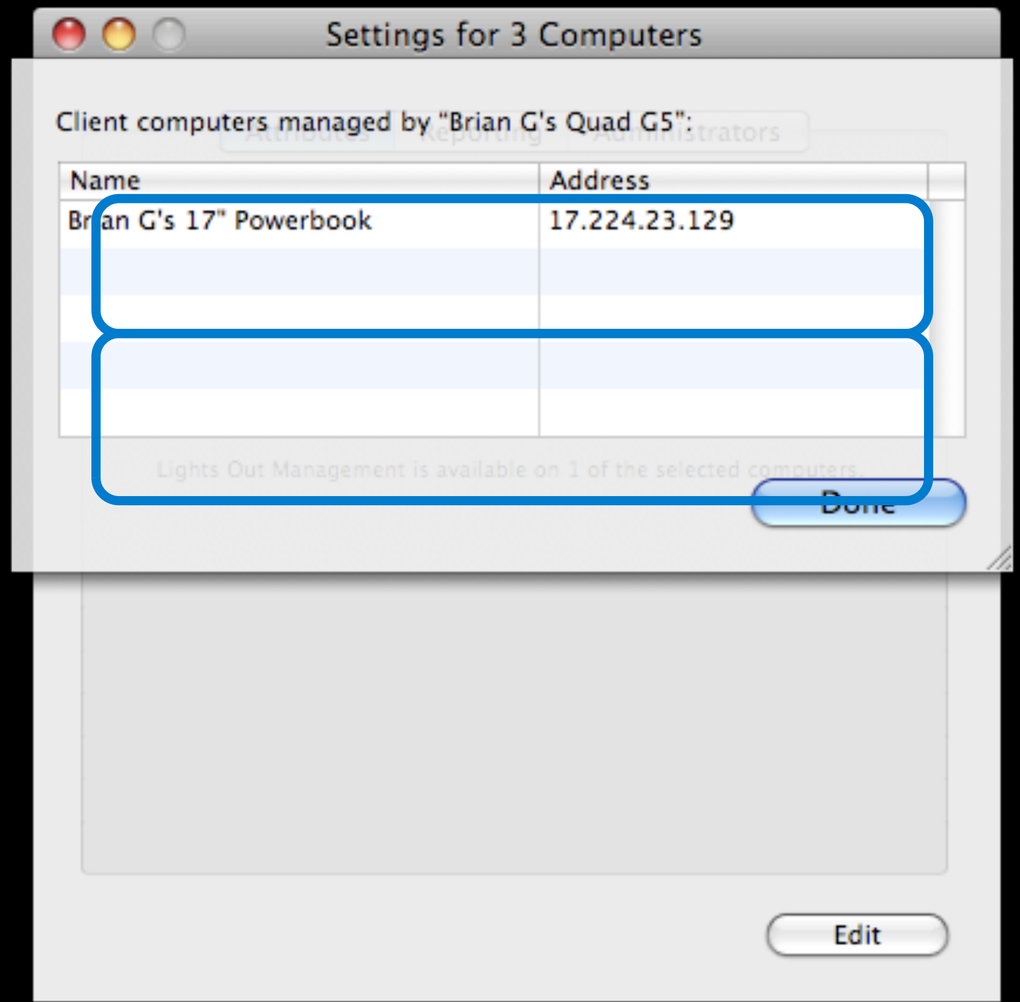
Reporting Policy

- Single policy per client
- Reporting categories
- Generation schedule
- Blank policy disables reporting
- Removing all administrator consoles disables reporting



Information About Multiple Clients

- Attributes
  - Authentication information
  - Lights Out Management configuration
- Reporting
  - Union of reporting policies
- Administrators
  - Union of administrator consoles for all selected clients
  - Display clients administered by selected administrator console
  - Remove administrator console from the selected clients it managed



Demo

Discovering Computers with Apple Remote Desktop

Doug Richardson

Finding and Adding Clients

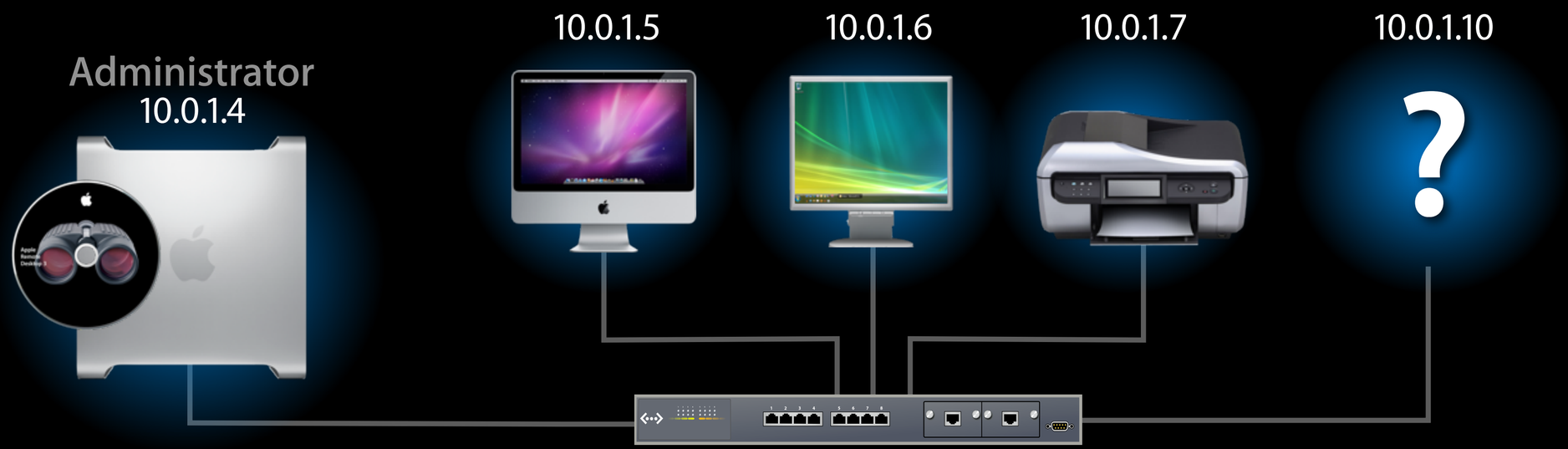
- Finding clients can depend on:
  - Network topology
    - Single subnet
    - Multiple subnets
    - Multiple subnets with NAT routers
    - Using a common Task Server
    - Using a Directory Server with computer groups

Finding and Adding Clients

Single subnet

- Bonjour Scanner
- Local Network
- Network Range
- Network Address
- File Import

Network Address
10.0.1.5
10.0.1.5–10.0.1.6
10.0.1.5
10.0.1.10



Finding and Adding Clients

Multiple subnets

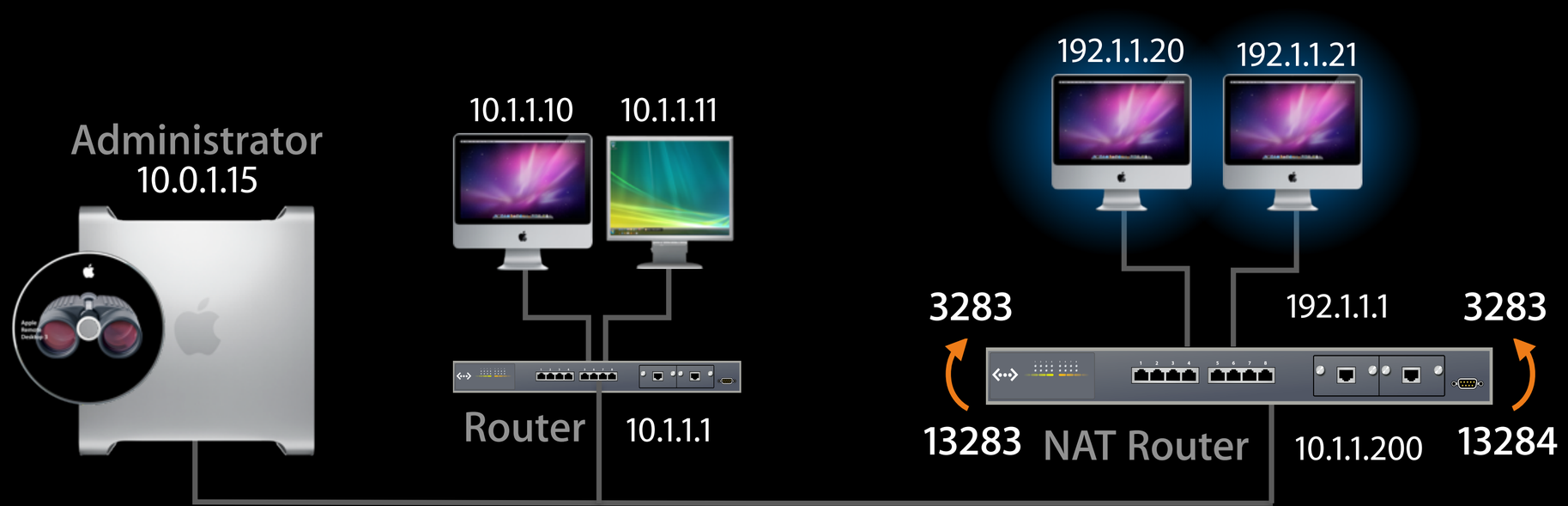
- Bonjour Scanner
- Local Network
- Network Range
- Network Address
- File Import

Network Address
10.1.3.30

Finding and Adding Clients

Multiple subnets with NAT routers

Add by Address



Finding and Adding Clients

Task Server and Directory Server scanners

Bernie
10.2.2.2
00:13:f2:18:a1:45

Matlock
10.3.3.3
00:25:f3:bb:a8:89

Judy
10.4.4.4
00:07:ef:a8:5f:22

Finding and Adding Clients

Task Server and Directory Server scanners

Administrator 1

Administrator 2

Finance

Bernie
10.2.2.2
00:13:f2:18:a1:45

Legal

Matlock
10.3.3.3
00:25:f3:bb:a8:89

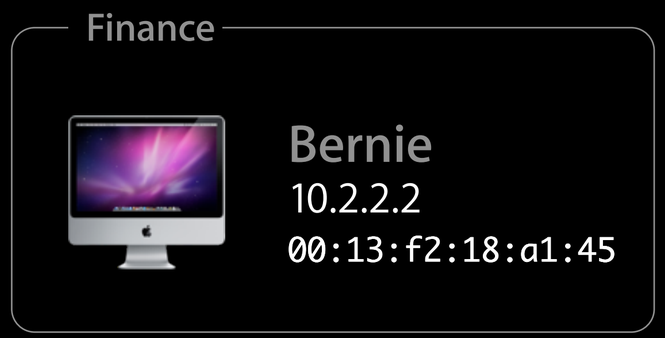
Judy
10.4.4.4
00:07:ef:a8:5f:22

Directory Server

Finance	00:13:f2:18:a1:45
Legal	00:25:f3:bb:a8:89
	00:07:ef:a8:5f:22

Finding and Adding Clients

Task Server and Directory Server scanners



Finding and Adding Clients

Task Server and Directory Server scanners

Administrator 1

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Administrator 2

Finance

Bernie
10.2.2.2
00:13:f2:18:a1:45

Legal

Matlock
10.3.3.3
00:25:f3:bb:a8:89

Judy
10.4.4.4
00:07:ef:a8:5f:22

Task Server

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Directory Server

Finance	00:13:f2:18:a1:45
Legal	00:25:f3:bb:a8:89
	00:07:ef:a8:5f:22

Finding and Adding Clients

Task Server and Directory Server scanners

Administrator 1

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Administrator 2

Finance

Bernie

10.2.2.2

00:13:f2:18:a1:45

Legal

Matlock

10.3.3.3

00:25:f3:bb:a8:89

Judy

10.4.4.4

00:07:ef:a8:5f:22

Task Server

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Directory Server

Finance 00:13:f2:18:a1:45

Legal 00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Finding and Adding Clients

Task Server and Directory Server scanners

Administrator 1

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Administrator 2

Finance

Bernie

10.2.2.2

00:13:f2:18:a1:45

Legal

Matlock

10.3.3.3

00:25:f3:bb:a8:89

Judy

10.4.4.4

00:07:ef:a8:5f:22

Task Server

00:13:f2:18:a1:45

00:25:f3:bb:a8:89

00:07:ef:a8:5f:22

Directory Server

Finance 00:13:f2:18:a1:45

Legal 00:25:f3:bb:a8:89

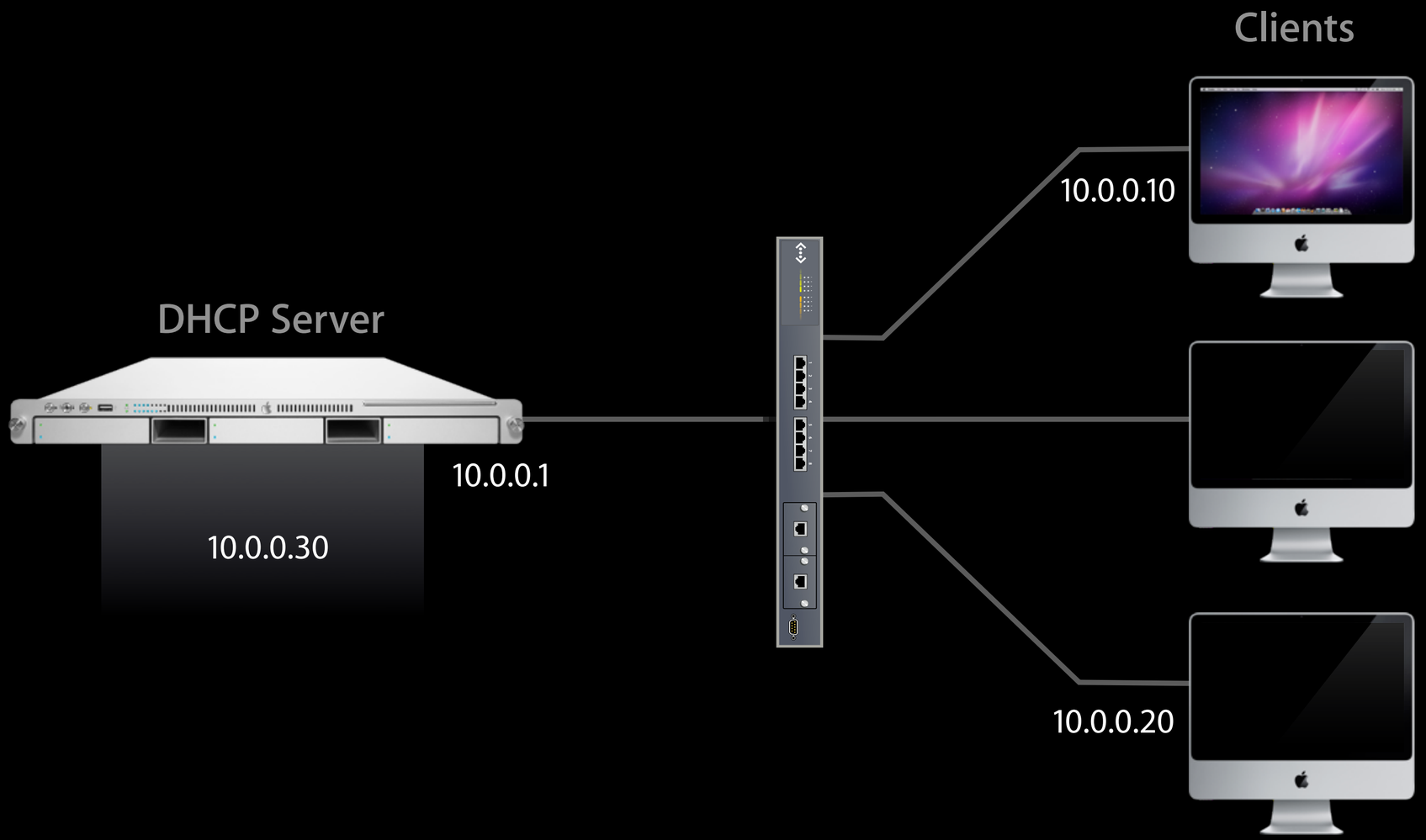
00:07:ef:a8:5f:22

Staying Connected

Mark Whittemore

Staying Connected: Client Address Changes

Powered down or sleeping



Staying Connected: Client Address Changes

Mobile client

Building A

Wireless Access Point

10.0.1.1

10.0.1.2

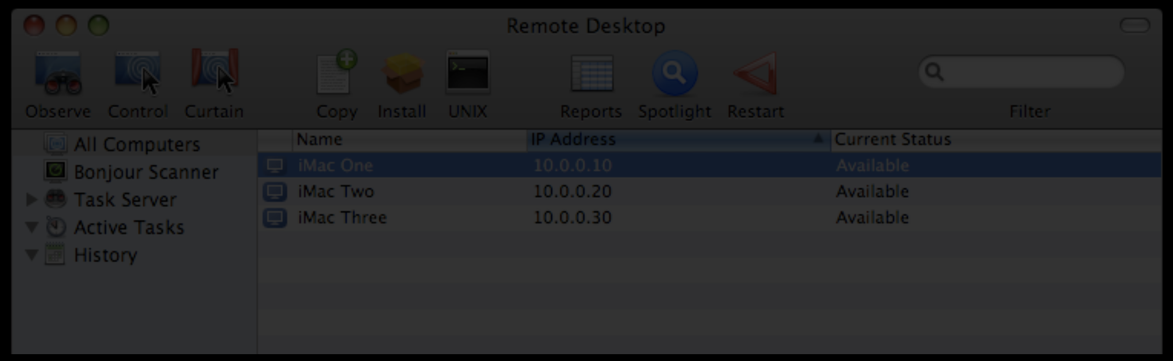
Building B

Wireless Access Point

10.0.2.2

10.0.2.1

Staying Connected: Client Address Changes



Administrator
11.0.0.100

Network A

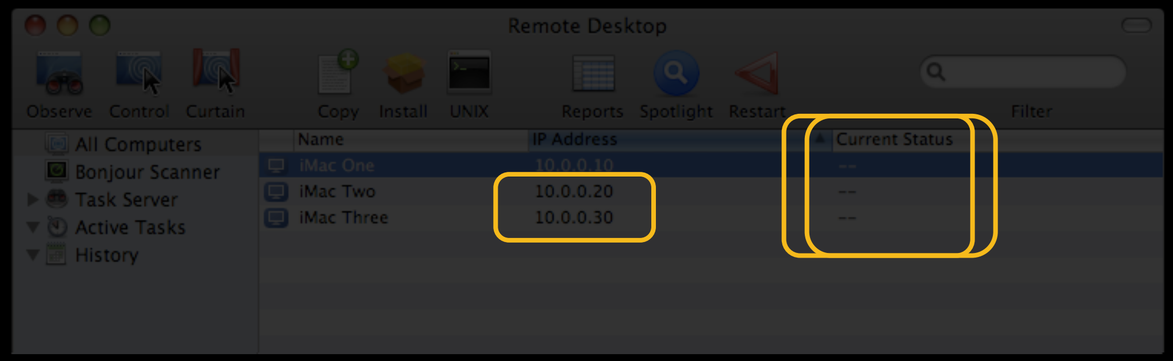
Clients

iMac One
10.0.0.10

iMac Two
10.0.0.20

iMac Three
10.0.0.30

Staying Connected: Client Address Changes



Administrator
11.0.0.100

Network A

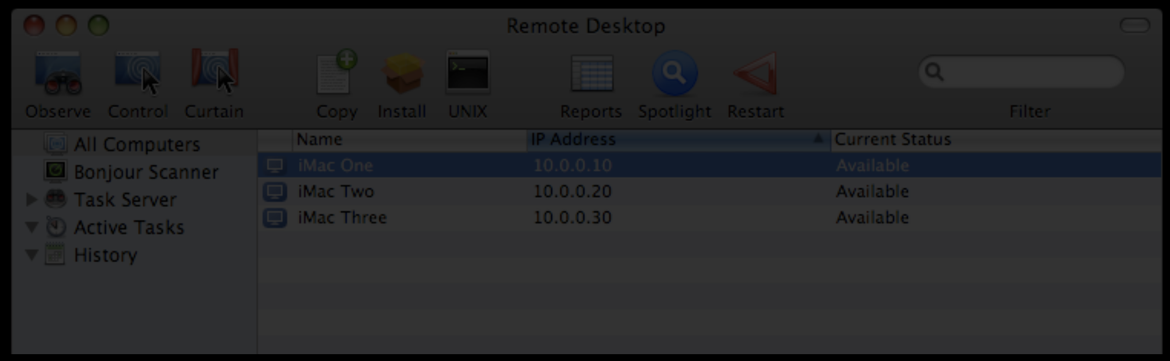
Clients

iMac One
10.0.0.10

iMac Two
10.0.0.40

iMac Three
10.0.0.50

Staying Connected: Client Address Changes



Administrator
11.0.0.100

Network B

Network A

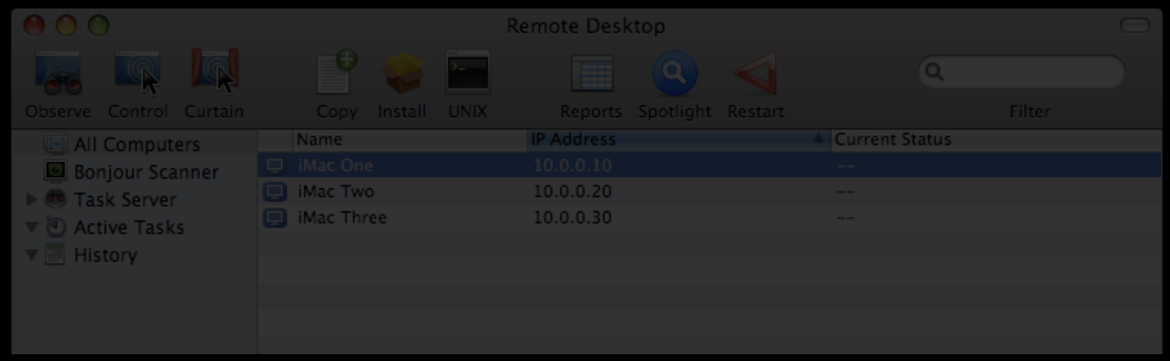
Clients

iMac One
10.0.0.10

iMac Two
10.0.0.20

iMac Three
10.0.0.30

Staying Connected: Client Address Changes



Clients

iMac One
10.0.0.10

Network B

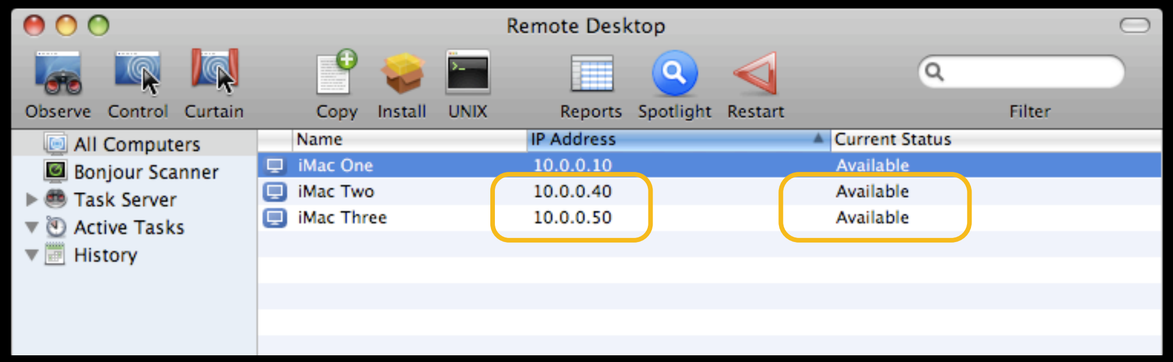
Network A

Administrator
11.0.0.100

iMac Two
10.0.0.40

iMac Three
10.0.0.50

Staying Connected: Client Address Changes



Clients

iMac One
10.0.0.10

Network B

Network A

Administrator
11.0.0.100

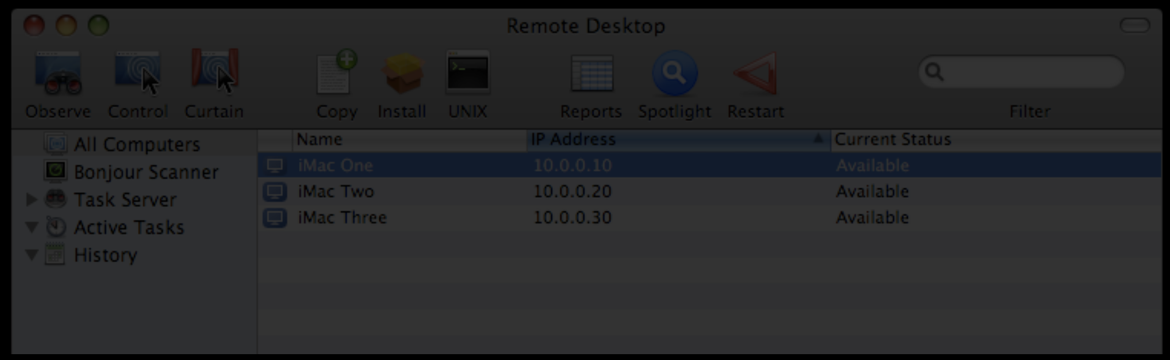
iMac Two
10.0.0.40

iMac Two > 10.0.0.40
iMac Three > 10.0.0.50

Task Server

iMac Three
10.0.0.50

Staying Connected: Client Address Changes



Clients

iMac One
10.0.0.10

Administrator
11.0.0.100

Network B

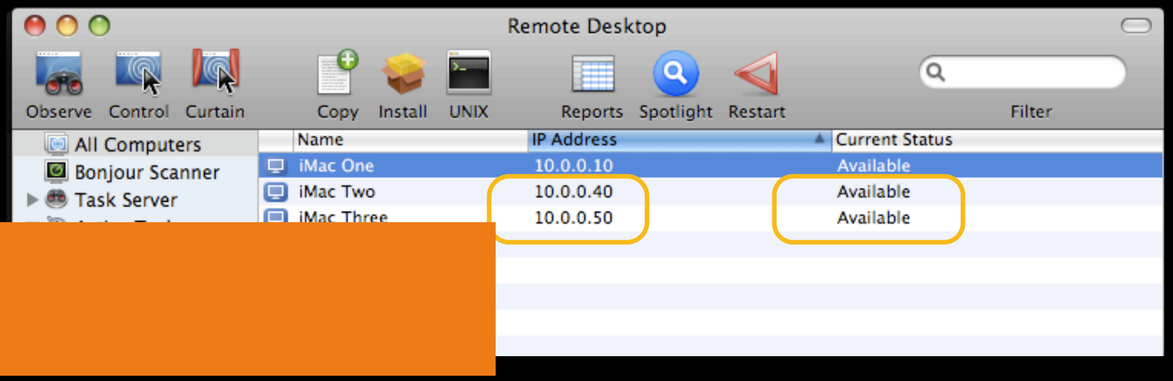
Network A

iMac Two
10.0.0.40

iMac Three
10.0.0.50

Wide-Area Bonjour Server

Staying Connected: Client Address Changes



align

Administrator
11.0.0.100

Network B

Network A

Clients

iMac One
10.0.0.10

iMac Two
10.0.0.40

iMac Three
10.0.0.50

iMac Two > 10.0.0.40
iMac Three > 10.0.0.50

Wide-Area Bonjour Server

Staying Connected: Task Server Placement

Administrator
17.0.0.10

Switch

17.0.0.30
iMac One

iMac One > 17.0.0.30 : 3283

Task Server
17.0.0.20

Administrator, Task Server, and clients all on the same network

Staying Connected: Task Server Placement

Administrator
17.0.0.10

Network A
Router

Network B
NAT Router

192.168.1.30
iMac One

iMac One > 17.0.0.30 : 3283

Task Server
17.0.0.20

Administrator and Task Server on one network, and clients on another network

Staying Connected: Task Server Placement

Administrator
17.0.0.10

Network A
Router

17.10.0.1

Network B
NAT Router

17.0.0.1

53283

3283

192.168.1.30
iMac One

17.0.0.1 : 53283 > 192.168.1.30 : 3283

iMac One > 17.0.0.30 : 3283

Task Server
17.0.0.20

Staying Connected: Task Server Placement

Administrator and Task Server on one network, and clients on a NAT network

Administrator
17.0.0.10

Network A
Router

17.10.0.1

Network B
NAT Router

17.0.0.1

51234

3283

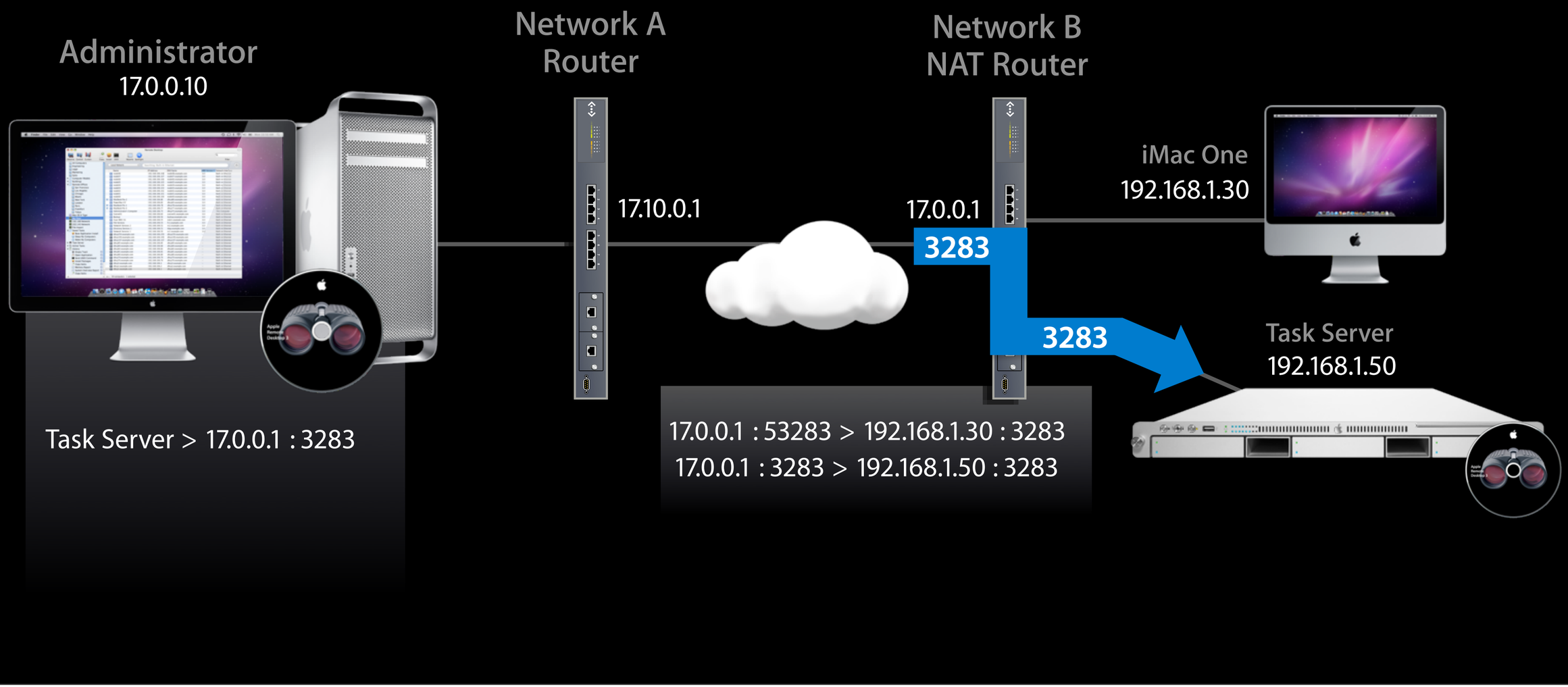
192.168.1.30
iMac One

17.0.0.1 : 53283 > 192.168.1.30 : 3283

iMac One > 17.0.0.30 : 3283

Task Server
17.0.0.20

Staying Connected: Task Server Placement



Staying Connected: Task Server Placement

Administrator
17.0.0.10

Task Server > 17.0.0.1 : 3283
iMac One > 17.0.0.1 : 53283

Network A
Router

17.10.0.1

17.0.0.1

17.0.0.1 : 53283 > 192.168.1.30 : 3283
17.0.0.1 : 3283 > 192.168.1.50 : 3283

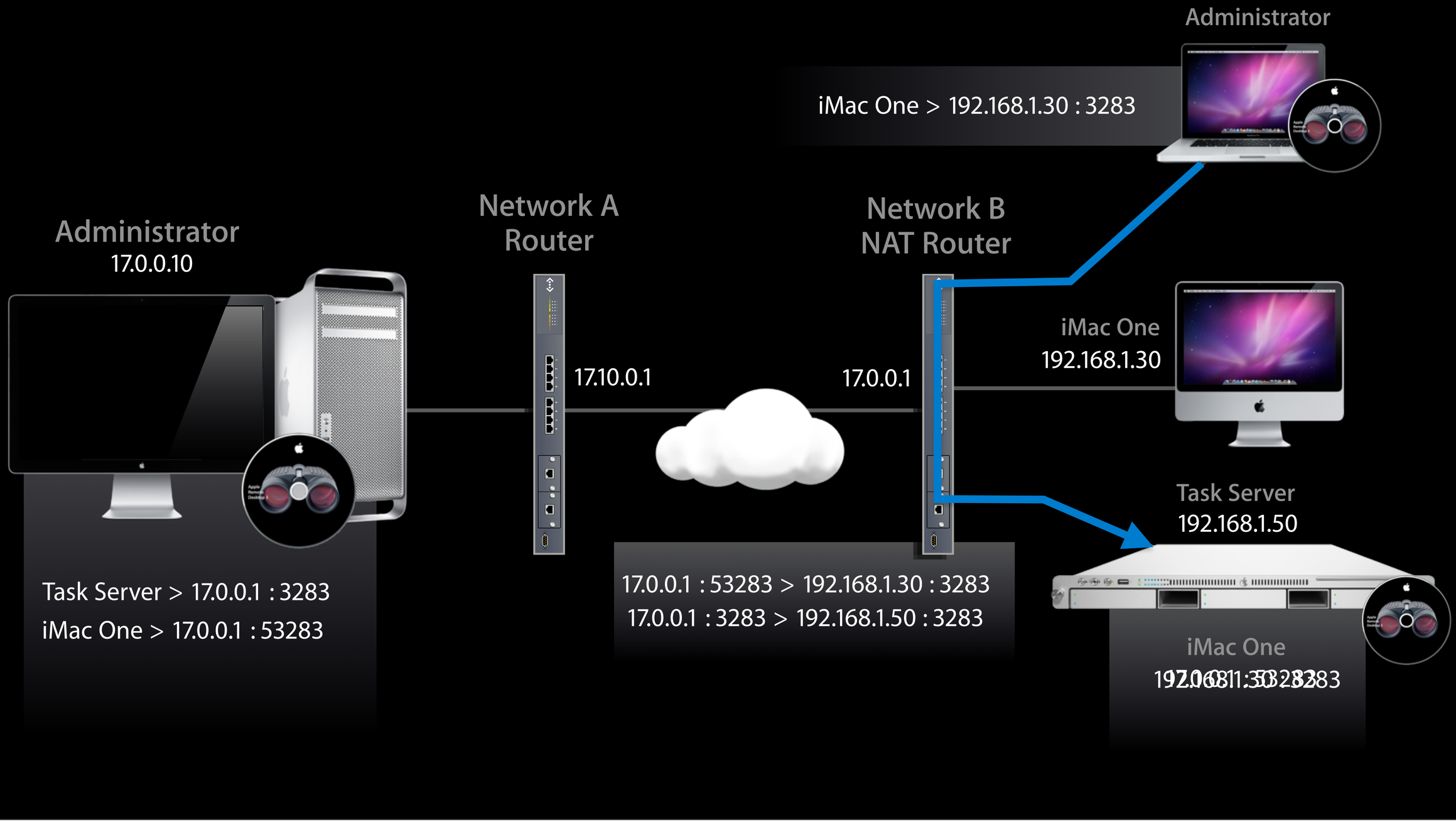
Network B
NAT Router

iMac One
192.168.1.30

Task Server
192.168.1.50

iMac One
17.0.0.1 : 53283

Staying Connected: Task Server Placement



Staying Connected: Task Server Placement

Administrator

iMac One > 192.168.1.30 : 3283

Administrator
17.0.0.10

Network A
Router

17.10.0.1

Network B
NAT Router

17.0.0.1

iMac One
192.168.1.30

Task Server
192.168.1.50

Task Server > 17.0.0.1 : 3283

iMac One > 192.168.1.30 : 3283

17.0.0.1 : 53283 > 192.168.1.30 : 3283

17.0.0.1 : 3283 > 192.168.1.50 : 3283

iMac One
192.168.1.30 : 3283

Staying Connected: Task Server Placement

Administrator
and Task Serv
a NAT networ

twork
ts on

Administrator

iMac One > 192.168.1.30 : 3283

Administrator
17.0.0.10

Network A
Router

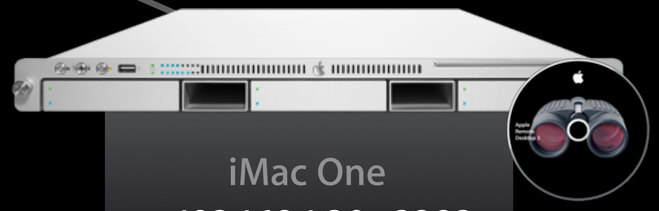
17.10.0.1

17.0.0.1

Network B
NAT Router

iMac One
192.168.1.30

Task Server
192.168.1.50



Task Server > 17.0.0.1 : 3283

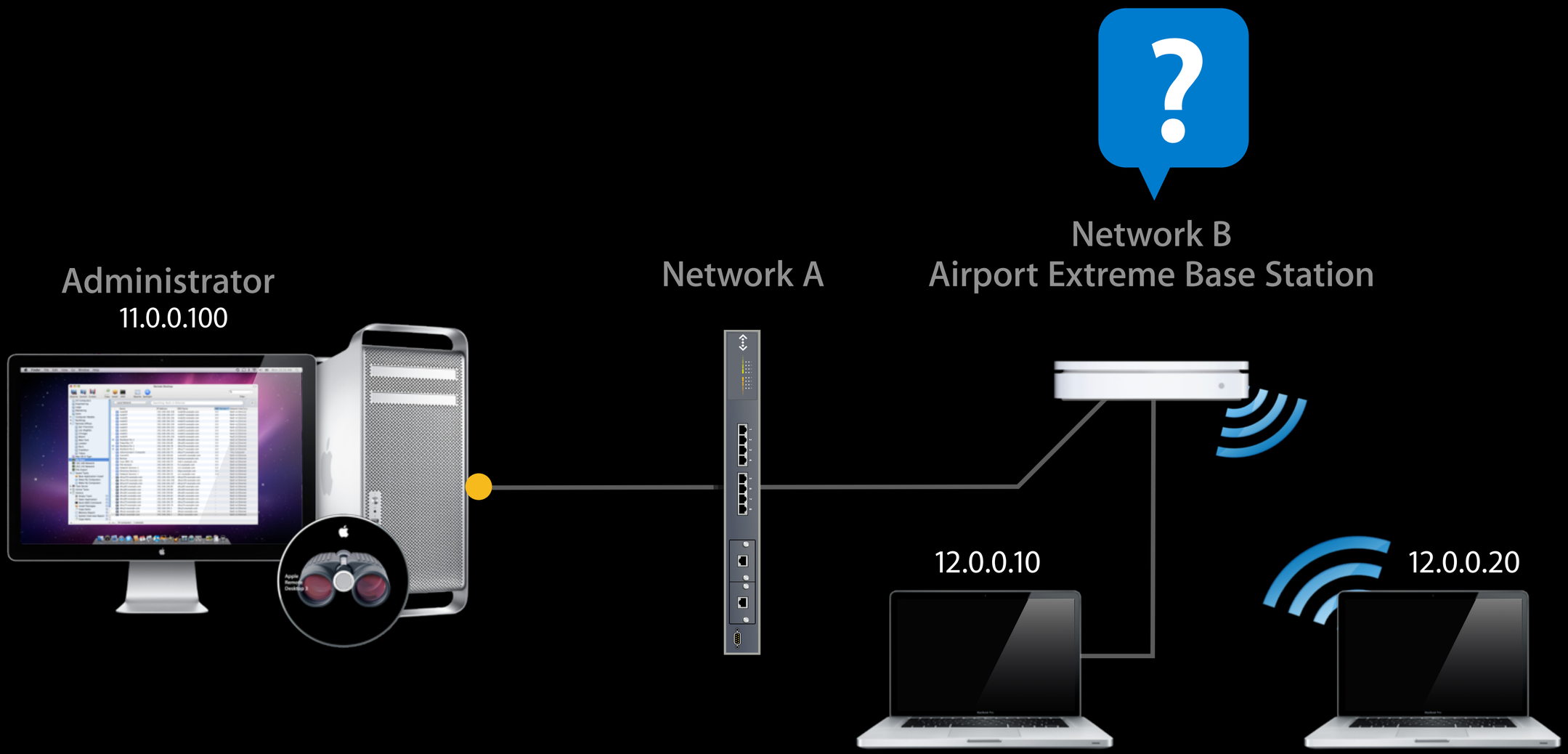
iMac One > 192.168.1.30 : 3283

17.0.0.1 : 53283 > 192.168.1.30 : 3283

17.0.0.1 : 3283 > 192.168.1.50 : 3283

iMac One
192.168.1.30 : 3283

Staying Connected: Waking Clients



Staying Connected: Waking Clients

New Bonjour Sleep Proxy

Administrator
11.0.0.100

Network A

Network B
Airport Extreme Base Station
with Bonjour Sleep Proxy

12.0.0.10
12.0.0.20

12.0.0.10

12.0.0.20

Staying Connected: Waking Clients

New Bonjour Sleep Proxy

Administrator
11.0.0.100

Network A

Network B
Airport Extreme Base Station
with Bonjour Sleep Proxy

12.0.0.10
12.0.0.20

12.0.0.10

12.0.0.20

Staying Connected: For More Information

- Wide-area Bonjour
  - AFP548.com articles
    - Wide-Area Bonjour—Part 1 The Practical Bits
    - Wide-Area Bonjour—Part 2 Bring the Pain

Apple Remote Desktop Workflows

Steve Hayman

Demo

Interested in Testing?

- Download from ADC seed
- If not a member of ADC
  - See Andre in the lab
  - Send email to remotedesktop@apple.com

In Summary

- Apple Remote Desktop 3.2 update available now
- Apple Remote Desktop 3.3 update coming with Snow Leopard
- Links to more resources are available at
  - http://www.apple.com/remotedesktop/resources.html
- We're in the IT lab at 5:00 this evening to answer additional questions

Q&A

WWDC Session Survey

You can rate your sessions on the WWDC Attendee Site.

Survey forms are located on each session description page at:

developer.apple.com/wwdc/attendee

More Information

Mark Malone
Internet and Server Technologies Evangelist
remotedesktop@apple.com

Apple Training and Certification
http://training.apple.com

Related Sessions

Using Services in Snow Leopard for Scripting IT Tasks	Nob Hill Tuesday 5:00PM
What's New in Directory Services	Nob Hill Wednesday 9:00AM

WWDC09